

WHAT IS CLAIMED

1. Process for conditioning a circulating felt belt of a machine for producing a fibrous material web, comprising:

performing a zonal conditioning of a plurality of zones across a width of the felt belt by measuring at least one of:

fibrous material web cross direction profile;

felt belt cross direction profile; and

permeability of the felt belt across the width of at least one of the web and the belt; and

conditioning said felt belt depending on measuring results obtained for a respective zone.

2. The process according to claim 1, wherein said machine comprises a paper making machine.

3. The process according to claim 2, wherein said fibrous material web comprises one of a paper or cardboard web.

4. The process according to claim 3, wherein the fibrous material web cross direction profile comprises a moisture cross direction profile of the fibrous material web.

5. The process according to claim 4, wherein the felt belt cross direction profile comprises a water content of the felt belt across the width of at least one of the web and the belt.

6. The process according to claim 1, further comprising:
calculating a mean value from the measured values obtained for the various zones;

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and

selecting the intensity of the conditioning in each zone depending upon the deviation of the measuring results obtained for the respective zone from the mean value.

7. The process according to claim 1, wherein the felt conditioning occurs at least partially by way of a traversing spraying nozzle.

8. The process according to claim 1, wherein the felt conditioning occurs at least partially by way of at least one spraying pipe that includes several nozzles.

9. The process according to claim 8, wherein said at least one spraying pipe is zonally controllable.

10. The process according to claim 9, further comprising moving said at least one spraying pipe across the width of the zones.

11. The process according to claim 1, wherein the felt conditioning occurs at least partially by way of at least one pipe suction apparatus.

12. The process according to claim 11, wherein said at least one pipe suction apparatus is zonally controllable.

13. The process according to claim 12, further comprising moving said at least one pipe suction apparatus across a width of the zones.

14. The process according to claim 13, wherein said pipe suction apparatus includes a ceramic body extending at least essentially across the entire width of the felt belt, and further comprising subjecting the felt belt to vacuum by way of a slotted surface formed

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in said ceramic body, and variably adjusting, by zones, an effective slotted portion of the surface, to vary, a respective effective time of being subjected to vacuum.

15. The process according to claim 14, further comprising variably adjusting, by way of movable tongues, an effective slotted portion of the surface.

16. The process according to claim 15, wherein said movable tongues comprise metal tongues.

17. The process according to claim 1, wherein the felt conditioning occurs at least partially by way of at least one traversing short pipe suction apparatus including a ceramic body provided with a slotted surface by way of which the felt belt is subjectable to vacuum, and further comprising, variably adjusting by zones, an effective slotted portion of the surface to vary a respective effective time of being subjected to vacuum.

18. The process according to claim 17, wherein an effective slotted portion of the surface is variably adjustable by using movable tongues.

19. The process according to claim 18, wherein said movable tongues comprise metal tongues.

20. The process according to claim 1, wherein said zonal conditioning comprises supplying separately adjustable amounts of conditioning medium to various zones in accordance with respective target values.

21. The process according to claim 20, wherein said target values are variable.

22. The process according to claim 21, further comprising diluting, outside of the

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machine, the conditioning medium.

23. The process according to claim 21, wherein the supplying of conditioning medium occurs at least partially by way of at least one traversing application unit, and determining the amount of conditioning medium supplied to each zone by using a lag time of the traversing application unit in the respective zone.

24. The process according to claim 21, wherein the supplying of conditioning medium occurs at least partially by way of a plurality of stationary nozzles provided across the width of the felt belt, with a corresponding number of valves being assigned to the nozzles, and the amount of conditioning medium supplied being determined for each zone by way of a respective valve assigned to the relevant nozzle.

25. The process according to claim 1, wherein said zonal conditioning comprises supplying conditioning medium across a width of the felt belt.

26. The process according to claim 25, wherein, said conditioning medium comprises conditioning chemicals mixed into conditioning water.

27. The process according to claim 25, wherein the conditioning medium comprises conditioning chemicals supplied to at least one conditioning device provided only for chemical conditioning.

28. The process according to claim 25, further comprising providing a zonal regulation of the supplied conditioning medium.

29. The process according to claim 1, further comprising measuring at least one felt belt cross direction profile and adjusting zonal conditioning elements across the width

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of the felt belt according to the measured felt belt cross direction profile.

30. The process according to claim 29, wherein the felt belt cross direction profile is measured by way of an online measuring device, with a closed-loop control preferably being formed in connection with each of the zonal conditioning elements.

31. The process according to claim 29, further comprising setting at least one of:
predeterminable felt mean value; and
predeterminable ratio of a felt mean value for at least one of an upper felt and a lower felt.

32. Process according to claim 31, further comprising setting the at least one of predeterminable felt mean value and predeterminable ratio of a felt mean value, depending on at least one of a desired dry matter content and moisture cross direction profile after a respective at least one of a pressing nip and a press section.

33. The process according to claim 32, further comprising:
measuring online, immediately after the press section, at least one of a moisture cross direction profile and dewatering amounts occurring at at least one of grooves and pipe suction apparatus;

and adjusting the zonal conditioning elements depending on the measuring result that is obtained therefrom.

34. Pipe suction apparatus for conditioning a circulating felt belt, wherein a zonal conditioning of a plurality of zones across a width of the felt belt is performed by:

measuring at least one of:

fibrous material web cross direction profile;

felt belt cross direction profile; and

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permeability of the felt belt across the width of at least one of the web and the belt; and

conditioning said felt belt depending on measuring results obtained for a respective zone, the apparatus comprising:

a ceramic body extending at least essentially across the entire width of the felt belt;
said ceramic body being provided with a slotted surface by way of which the felt belt is subjectable to vacuum, with a respective effective amount of slotted surface being zonally variably adjustable by way of movable tongues.

35. The pipe suction apparatus according to claim 34, wherein said movable tongues comprise metal tongues.

36. The pipe suction apparatus according to claim 35, wherein a respective effective time of being subjected to vacuum is correspondingly varied.

37. Traversing pipe suction apparatus for conditioning a circulating felt belt, wherein a zonal conditioning of a plurality of zones across a width of the felt belt is performed by:

measuring at least one of:

fibrous material web cross direction profile;

felt belt cross direction profile; and

permeability of the felt belt across the width of at least one of the web and the belt; and

conditioning said felt belt depending on measuring results obtained for a respective zone, the apparatus comprising a ceramic body provided with a slotted surface by way of which the felt belt is subjectable to vacuum, with an effective amount of slotted surface being variably adjustable by way of at least one movable tongue.

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38. The traversing pipe suction apparatus according to claim 37, wherein said movable tongue comprises a metal tongue.

39. The traversing pipe suction apparatus according to claim 38, wherein a respective effective time of being subjected to vacuum is correspondingly varied.